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Food Waste Management and Giving App

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Abstract-Food waste is growing daily, and hunger is a major problem in the globe today. An online food management system called Surplus Food for Orphanage (SFO) oversees excess food for malnourished individuals who don't have enough to sustain themselves. The goal of the study is to create a web-based platform called "Surplus Food for Orphanage" that facilitates communication between food seekers and donors. This paper is an example of a new online platform that will be useful for giving away used items and surplus food to anyone in need. The donor can create an account on this website. Donors can access this website by logging into their accounts after completing the registration process. The donor will publish their post by providing the name of the food item, the amount of food they wish to donate, their location, and their phone number. Food waste will be lessened thanks to this technique, which will also encourage more people to give food to orphanages.

Keywords–Food Waste; Firebase; Authentication; Storage; Database; Mobile App

I. INTRODUCTION

Food waste is a major global problem that affects the environment, the economy, and society. Nearly 1.3 billion tons, or one-third, of the food produced for human consumption is wasted annually, according to estimates from the Food and Agriculture Organization (FAO). This waste exacerbates problems with food security, depletes natural resources, and raises greenhouse gas emissions in addition to contributing to poverty and malnutrition. In light of this problem, our idea aims to reduce food waste by offering a comprehensive system that includes food donation and sales forecasts. The primary goal is to decrease food waste by matching surplus food from parties, events, and restaurants with businesses and individuals who may donate it to those in need. Additionally, we use machine learning methods like Random Forest, Gradient Boosting Regressor, and XGBoost that aid in efficient inventory management and accurate food sales forecasting. Using technology and data-driven methods, our research seeks to offer pract

Motivation

According to current knowledge, technology is developing and expanding daily. The primary motto is to assist those in need. Many people who want to give items to charitable organizations can leverage the concept behind the over project. Additionally, a lot of organizations prefer to request other items that they need, such clothing, food grains, books, cutlery, etc.

Basic Concept

By donating leftover food to non-profit organizations, we have attempted to decrease restaurant food waste with this smartphone app. In the event that hotels have any leftover food, NGOs will add to a request. The management of that particular restaurant receives this request. After accepting the request, the NGO manager gives it to one of the staff members for takeout and sends the request to the eatery. At the end of the day, the hotel's leftover meals can be donated to non-governmental organizations. For the leftover food, the administrator can look up the history of restaurants and non-profits. The owners of elderly homes and orphanages can rate food items to assist others in choosing them. Sentiment analysis of each review provided by the owner is stored using the scrkit_learn module, an NLP algorithm, and Python.[10]

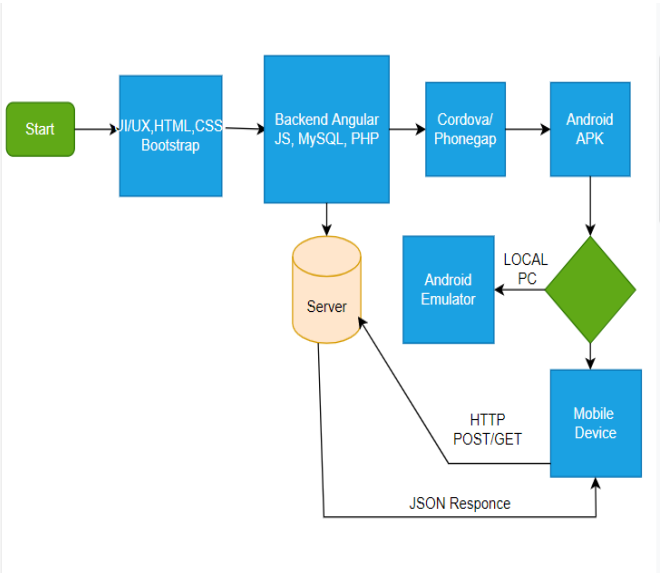

Figure 1: Block Diagram

II.LITERATURE SURVEY

According to [2], food waste is an important global issue. According to the report, more than 58% of the food people produce for consumption are wasted every day. As a result,

countries with advanced technology on this topic are noisy. As a result, small food is wasted and given to the poor. Various uses have been created to reduce food waste and provide a means to distribute excess food to the poor. Applications

There are many ways to reduce food waste. Food donations to the poor are options provided by the customer application. Donors will enter simple information such as the amount of food, type of food, money, and phone number. Food can be accepted and distributed by hungry people by ngos or another social working group. Completed registrations are added to the server-side database.

The location of donors and the best route to bring them to the nearest NGO or nearest facility can be kept along with the organization's instructions.Individuals are required [4].Contains information on why you want to re-create such an application. This outlines the current donation system and how the proposed products contribute to improving society. The number of people living in poverty is increasing due to the latest depression. Food poverty, especially in wealthy areas. The client-side app allows users to donate food to charities that contribute to feeding their hunger. Three main elements.The system is formed: administrators, NGOs, donors. Donors will fill out the registration and registration form and add it to gift question items so that they can be viewed and contributed.Recipients will perform tasks such as enquiries, instructions, and announcements of donations. Manager Monitors and improves collections. Both donors and administrators consider recipient status. Notes are saved in the backend folder, and the products represented by donors will be displayed to other users as reminders in the Donation tab [5]. In the basic paper, automation is created with four modules that focus on the amount of wasted food. His goal is to raise awareness by granting actual data on food volumes. The database is used to store food volumes every day, and the presented data are displayed in the diagram to motivate students to reduce food waste [6]. Central Data Store is linked to the Automation Component. Contrary to the module, people decide how many people to eat, and the scale scale module weighs food waste before information about Wi-Fi dongle is sent to a central Datension Memory.

III. EXISTING APPLICATION

Currently, the system's requirements are met through websites that are not faster to access and do not inform the public about the service [4]. Since everything is revealed by middlemen, there is no real communication between the donor and NGOs. Another explanation is that there isn't a mobile application that is currently in use.

IV. PROPOSED SYSTEM

Implementation Donor Page:

Step 1: User personal information can be used to register. After adding details from the system. quality.

Step 2: Volunteers can register the system.

V. ALGORITHM

Natural Language Processing[Nlp]

Sentiment analysis is a procedure that uses Natural Language Processing (NLP) to automatically reduce settings, judgments, opinions, and emotions from text, audio, tweets, database sources. Emotions

Analysis classifies textual judgments as "positive", "negative" or "neutral." Subjectivity analysis, reduced judgment, evaluation

Extraction is another name for this. [8] It is often used by those appointed to understand customers, evaluate society's reputation, and identify the mood of social data. Mood analysis is immediately the decisive technique for pursuing and understanding emotions with all kinds of data. Because people are more openly expressing their opinions than ever before. Brands may learn whether customers are happy or angry by automatically valuing them. B.

Dynamic survey responses and social media discussions. This way, you can adapt your products and services to the needs of your customers.

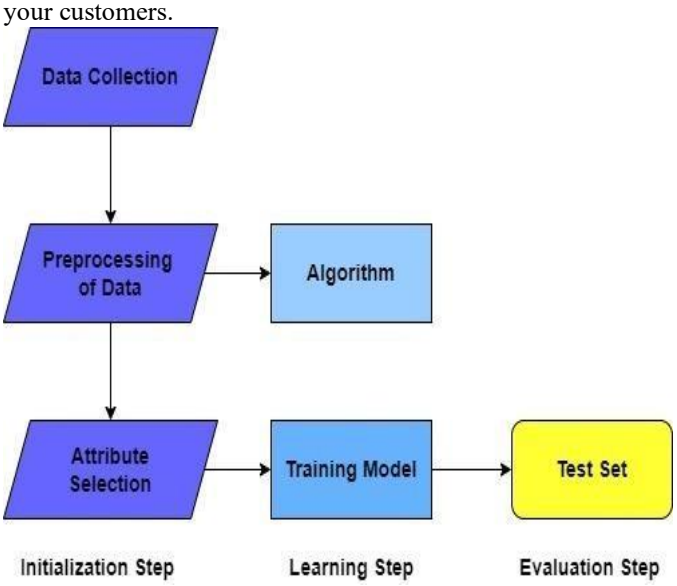

Figure 2: Algorithm Step by Step Process

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VI. SYSTEM MODULES

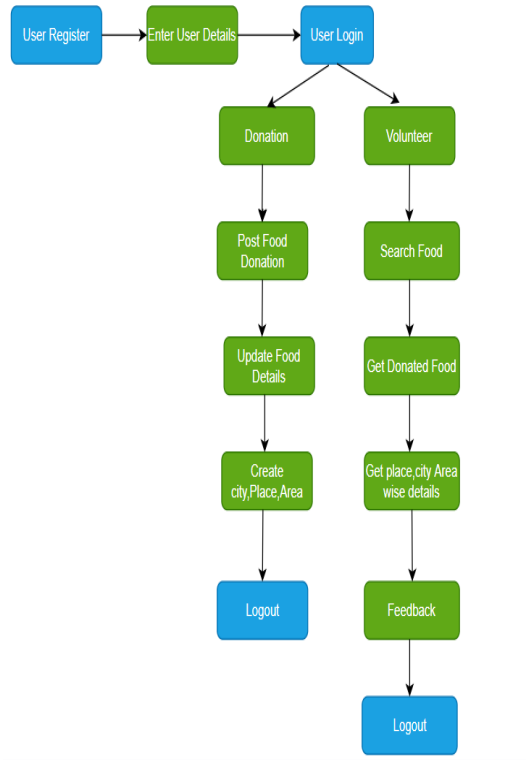

Fig 3: Architecture Diagram

VII. DESIGN DETAILS

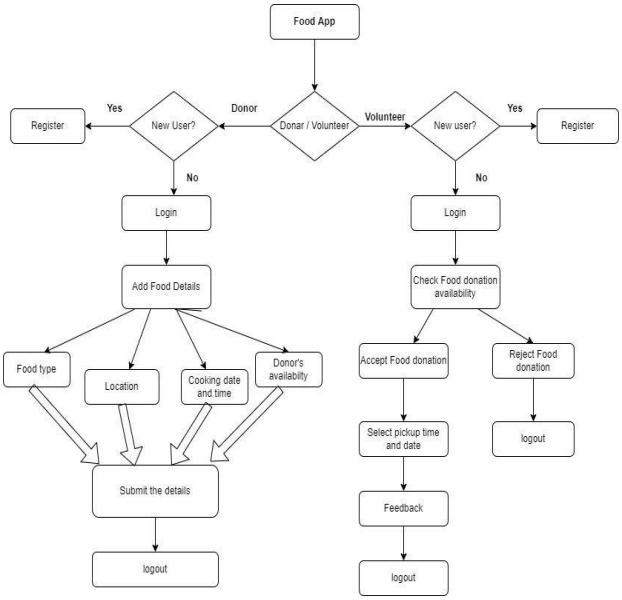

Figure 4: Flow Chart

VIII. ADVANTAGES

- There will be benefits for the needy as well as the restaurant (less food waste).
- Monitor food waste for the restaurant.
- The user can behave morally by reducing food waste and lending a hand to those in need.
- It's simple to give food from home.
- Easy to use and intuitive.
- There will be less food waste.

IX. FUTURE SCOPE

- Additionally, we expand our software to accommodate a variety of donation users, including those from families, businesses, and single users.
- Incorporating location functionality into our applications. The user making the donation needs to specify where the food will be shared.
- Including the time and date of every user-shared snack.
- Ensuring that the app is compatible with several platforms.

X. CONCLUSION

Our research addresses the issue of food waste that has many serious economic and social side effects. However, waste can be prevented or reduced by minimizing political rules and reducing technology. Our research has investigated the problems of food waste that have many negative effects on society and the economy. However, with the help of technology and government regulations, food waste can be avoided or at least reduced. Food Waste Management of the use of mobile application technology. The purpose of the app is to promote improved food management. By employing mobile technology to facilitate group meal sharing, our suggested method should help reduce food waste. The first step in creating a better system to cut down on everyday food waste is this work.

XI. ACKNOWLEDGEMENT

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